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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,580	04/20/2006	Yoon-Seob Eom	P-0776	4331

34610 7590 10/26/2009

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EXAMINER	
RAHIM, AZIM	
ART UNIT	PAPER NUMBER
3744	
MAIL DATE	DELIVERY MODE
10/26/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,580	EOM ET AL.	
	Examiner	Art Unit	
	AZIM RAHIM	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6,7,13,14 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,7,13,14 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation "wherein the outdoor suction port is substantially the same size as the rear surface of the case" as recited in claim 1, lines 25-26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 6, 7, 11, 13, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wollaber et al. (Wollaber, US 5,335,721) in view of Laing (US 3,366,169) and Bolton et al. (Bolton, US 5,467,610).

Regarding claim 1, Wollaber teaches a window type air conditioner (see figures 1-3), comprising: a case (8), one side of which is positioned on an indoor side and another side of which is positioned on an outdoor side (illustrated in figure 1); at least one indoor heat exchanger (36) mounted inside the case (illustrated in figure 3) positioned on the indoor side (illustrated in figure 3) to heat exchange with indoor air (heat exchanger 36 is capable of performing this intended use function); an indoor cross flow fan (38) that generates a blowing force (illustrated in figure 3) so that the indoor air passes through the at least one indoor heat exchanger and that

sucks and discharges the indoor air in a circumferential direction thereof (illustrated in figure 3); at least one outdoor heat exchanger (50) mounted inside the case positioned on the outdoor side (illustrated in figure 3) to heat exchange with outdoor air (heat exchanger 50 is capable of performing this intended use function); an outdoor cross flow fan (52) that generates a blowing force (illustrated in figure 3) so that the outdoor air passes through the first and second outdoor heat exchangers and that sucks and discharges the outdoor air in a circumferential direction thereof (illustrated in figure 3); an indoor air suction port (116) that sucks the indoor air into the air conditioner formed in a front surface of the case positioned on the indoor side (illustrated in figure 3); an indoor air discharge port (126) that discharges the indoor air from the air conditioner formed at an upper surface of the case positioned on the indoor side (illustrated in figure 3), and wherein the at least one indoor heat exchanger is vertically arranged adjacent to and inside the indoor air suction port (illustrated in figure 3); an outdoor air suction port (area where air 54 enters) that sucks the outdoor air into the air conditioner formed in a rear surface of the case positioned on the outdoor side ()illustrated in figure 3); and an outdoor air discharge port (area of arrow 56), wherein the outdoor heat exchanger, is installed adjacent to and inside the outdoor air suction port to heat exchange with the outdoor air sucked in through the outdoor air suction port (illustrated in figure 3). Wollaber further teaches a compressor (64) that compresses a refrigerant into a high temperature and a high pressure (see column 50, lines 50-53) and is installed on one side of the at least one outdoor heat exchanger (illustrated in figure 2), It is further noted that the recitation “upper” is absent a reference frame and depending on how the air conditioner is viewed, there can be multiple "upper" surfaces.

Wollaber fails to teach wherein the at least one outdoor heat exchanger comprising first and second outdoor heat exchangers; wherein the indoor air suction port is substantially the same size as the front surface of the case; wherein the outdoor suction port is substantially the same size as the rear surface of the case; wherein the second outdoor heat exchanger is installed adjacent to and inside the outdoor air discharge port to heat exchange with the outdoor air discharged through the outdoor air discharge port; wherein the compressor comprises a horizontal type compressor that includes a driving device horizontally arranged; and wherein the outdoor air discharge port is formed in the upper surface of the case positioned on the outdoor side.

Liang teaches an air conditioner (see figure 1) that includes indoor and outdoor cross flow fans (21 and 22), an evaporator (12) and a first condenser (13a) located near an outdoor suction port (illustrated in figure 1) and a second condenser (13b) located near an outdoor discharge port (208).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the air conditioner of Wollaber to include the first and second outdoor heat exchangers as taught by Liang in order to maximize heat transfer between air and the outdoor heat exchangers, thus increasing cooling efficiency.

The general concept of providing the outdoor suction port to be the substantially the same size as the rear surface of the case falls within the realm of common knowledge as obvious mechanical expedient and is illustrated by Liang which teaches that the indoor suction port is substantially the same size as the front surface of the case [illustrated in figure 1], and one having ordinary skill in the art would have been motivated to provide the outdoor suction port to be the

substantially the same size as the rear surface of the case in order to provide the air conditioner the capability of suctioning more air, thus increasing cooling efficiency.

The general concept of providing an outdoor air intake that is formed on an upper surface of a window-type air conditioner falls within the realm of common knowledge as obvious rearrangement of parts and is illustrated by Bolton which teaches a window mounted air conditioner (referring to figure 4) including outdoor air discharge louvers (38) defining an outdoor air discharge portion (illustrated in figure 4), wherein the louvers are positioned on an upper surface of the air conditioner (illustrated in figure 4), and one having ordinary skill in the art would have been motivated to include the use of an outdoor air intake that is formed on an upper surface of a window-type air conditioner in order to exhaust more air form the condenser, thus increasing heat transfer efficiency.

Bolton further teaches the concept of providing a horizontal rotary compressor (32) mounted to a base pan (42) of the outdoor section (14) of the air conditioner (illustrated in figure 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced the compressor of Wollaber as modified by Liang with the horizontal rotary compressor as taught by Bolton in order to allow for more room for other components of the air conditioner to be installed.

Regarding claims 6 and 20, Wollaber teaches that the indoor and outdoor cross flow fans comprise: a hub (annotated below) arranged extending in a longitudinal direction of the at least one indoor heat exchanger (illustrated below) and connected to a driving motor (72); and a plurality of blades (annotated below) provided on an outer circumferential surface of the hub

with a certain interval therebetween (illustrated below) and arranged extending in the longitudinal direction of the at least one indoor heat exchanger (illustrated below).

Regarding claim 7, Wollaber teaches a guide panel (60) that guides the indoor air sucked in through an indoor air suction port to an indoor air discharge port (illustrated in figure 3), installed on one side of the indoor cross flow fan (illustrated in figure 3); and an indoor cross flow fan stabilizer (12) that divides a suction side and a discharge side of the indoor cross flow fan installed at one side of the case (illustrated in figure 3).

Regarding claim 11, Liang teaches the first outdoor heat exchanger is arranged to extend vertically inside the outdoor air suction port (illustrated in figure 1), and the second outdoor heat exchanger is arranged to extend horizontally inside the outdoor air discharge port (illustrated in figure 1).

Regarding claim 13, Wollaber teaches an outdoor cross flow fan stabilizer (14) that divides a suction side and a discharge side of the outdoor cross flow fan installed between the first outdoor heat exchanger and the second outdoor heat exchanger (illustrated in figure 3); and a guide panel (60) that guides the air sucked in through the outdoor air suction port to the outdoor air discharge port installed on one side of the outdoor cross flow fan (illustrated in figure 3).

Regarding claim 14, Wollaber teaches that the plurality of blades of the outdoor cross flow fan contacts with condensed water stored in a lower portion of the case positioned on the outdoor side, thereby spraying the condensed water when the outdoor cross flow fan is rotated (as illustrated in figure 3, if condensation from condenser 50 overflows stabilizer 14 while fan 52 is sucking air through the condenser, water would contact fan 52).

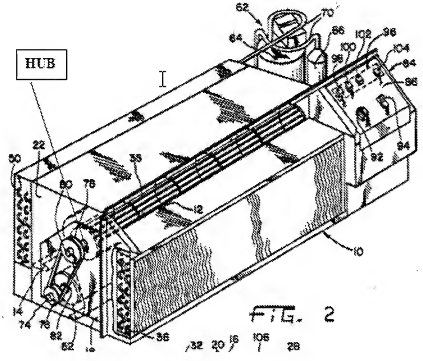

FIG. 2

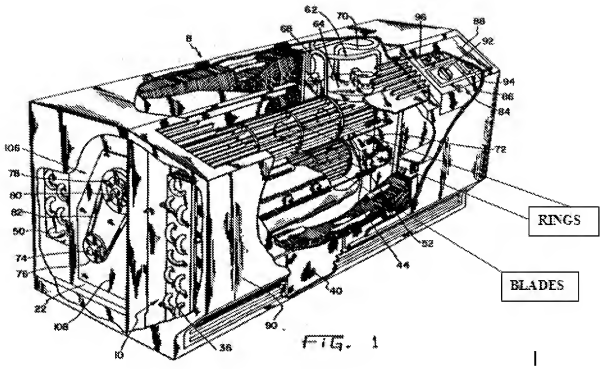

FIG. 1

Response to Arguments

4. Applicant's arguments filed 7/24/2009 have been fully considered but they are not persuasive.

A) Summary of the Applicant's Arguments:

4-3A) At page 9 paragraph 2 of the Applicant's *Remarks* section, the applicant contends that Wollaber nor Laing discloses or suggests that the outdoor suction port is substantially the same size as the rear surface of the case.

B) The Examiner's Response to the Arguments:

4-1B) In response to the applicant's argument as set forth in section 4-1A, In addition, regarding the sizing of the outdoor suction port of Wollaber, as illustrated in figures 3 and 4, the width and height of the outdoor suction port is close to the size of the rear surface of the case,

and the term "substantially" is held to be a broad terminology (See MPEP 2173.05(b) [R-6] Andrew Corp. v. Gabriel Electronics, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988)). Furthermore, any portion of the rear of the air conditioner can be considered the "rear surface." Therefore, the features of the outdoor suction port being substantially the same size as the rear surface of the case have been disclosed by Wollaber.

In conclusion, the Examiner respectfully submits, for at least the reasons stated above, that the rejections of the pending claims are properly upheld.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carlton (US 2,736,176) discloses a window mounted air conditioner (figures 1 and 3) comprising a condenser (56) an outdoor air inlet (6) disposed on a rear side of the air conditioner (illustrated in figure 3) an outdoor air outlet (8) disposed on the top of the air conditioner (illustrated in figure 3), an indoor air outlet (12) disposed on the top of the air conditioner (illustrated in figure 3); wherein the outdoor air inlet is the same size as the outdoor air inlet (illustrated in figures 1 and 3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIM RAHIM whose telephone number is (571) 270-1998. The examiner can normally be reached on Monday - Thursday 7am - 3pm EST and Friday 7am - 9:30am EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. R./
Examiner, Art Unit 3744
10/15/2009

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744